NASA
Commercial
Technology
Team

JOINT SPONSORED RESEARCH PROGRAM

Program Information Package

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Table of Contents

Goals..... 1

Legal Instrument..... 1

Project Requirements 1

Joint Sponsored Research Program..... 5

Selection of Participants..... 7

NASA Funding of Partnership Project and Cost Sharing Principles..... 9

In-Kind Resources Valuation and Verification..... 10

Funds Recipient, Accounting, and Audit Methodology..... 11

Overhead Rate Negotiable for University or Nonprofit Organization..... 11

Partnership Participation No Bar to Follow-On Procurement..... 11

Intellectual Property Rights..... 11

Appendix: Glossary of Terms..... 17

For More Information..... 18

Goals

Existing under NASA's Commercial Technology Network, the Joint Sponsored Research (JSR) Program is dedicated to promoting R&D partnerships between NASA and the private sector pertaining to dual-use technologies and to commercially valuable technologies with industry-wide application. The Joint Sponsored Research Program goals are to accelerate technology development, maintain U.S. technological leadership, foster U.S. economic growth and competitiveness, and/or create jobs.

Partnerships shall not be used for the primary purpose of acquiring property or services for the direct benefit or use of the United States Government.

Legal Instrument

The instrument for this type of project is the Joint Sponsored Research Agreement. The JSR Agreement (JSRA) permits NASA to provide resources, including funds, services, equipment, information, intellectual property, or facilities on a shared or pooled basis to at least one of the non-government partners. The JSR Agreement, with certain exceptions, is non-standardized in order to permit negotiation of terms and conditions between NASA and non-government partners. However, NASA may offer generally accepted provisions, which if concurred in by the non-government partners, will accelerate NASA's approval of the JSR Agreement.

The authority for the JSR Agreement is based on the Space Act (NASA's enabling statute)*. The JSR Agreement is not subject to Federal Acquisition Regulations (FARs) or regulations pertaining to Grants and Cooperative Agreements.

Project Requirements

Fundamental requirements of a JSR Project must develop and/or commercialize dual-use technology, as well as be likely to result in at least one of the following outcomes:

Section 203(c)(5) and (6) of the National Aeronautics and Space Act of 1958 as amended.

A. leverage the cost of technology development between NASA and the private sector; or

B. enhance U.S. industry's competitive position in the global marketplace; or

C. convert aerospace or defense technology to commercial application

NASA's experience to date indicates JSRA's may be useful in two (2) types of projects:

The Dual-Use Research Project

This type of partnership involves R&D collaboration between NASA and the private sector over technologies relevant to NASA missions application and sought by the private sector for commercial applications. The technology may be a product or process. By working together, NASA and the private sector party accelerate the development of technology while sharing costs. The cost of the R&D must be equitably borne by NASA and the non-government partner(s). R&D work may be carried out by NASA or one or more partner. Intellectual property rights must be shared in a manner that fosters the commercialization of the resulting technology. Marketing the technology in the commercial marketplace should be the basic economic rationale for the commercial partner's participation. NASA may partner with a single company or with multiple companies. In addition, a university or nonprofit organization may be a partner.

The Industry-Led Consortia

This type of partnership involves R&D collaboration between NASA and a group of industry members over technologies that have relevance industry-wide and are commercially valuable. NASA's role is to stimulate industry initiative in technology areas that are likely to have a significant impact on the industry's technology leadership or competitiveness, consistent with NASA's mission. While NASA will primarily be involved in determining broad project goals, industry is required to set specific R&D objectives and develop the R&D task plans (e.g., scope, phasing, priorities, milestones). Actual implementation work may be carried out by NASA and/or the commercial partners working collaboratively or

independently. In all cases, commercial partners must make significant contributions of resources to the project. Intellectual property must be worked out by the private sector participants and must promote the industry's competitive position. In addition, other types of partnering may be appropriate in a JSRA.

Joint Sponsored Research Program Elements

Parties to the Partnership

Parties to the partnership project will minimally include:

A. NASA and a commercial partner; or

B. NASA and a nonprofit partner if the nonprofit partner qualifies as an association or representative of for-profit entities.

In addition to the minimum participants, parties to a project may also include multiple companies or other business entities, one or more university, or one or more nonprofit research organization.

Commercialization Performance

Commercialization means the introduction of a process improvement, work tool, or system for internal use by a business or industry serving non governmental markets, or the sale of a product or service to other than the federal government.

One or more partner to a partnership project must possess a reasonable capability of commercializing the project technology. This partner must affirm in the Joint Sponsored Research Agreement the intention to pursue commercial application of the project technology. In addition, the affirming party must agree to report to NASA on progress toward commercial application after completion of the agreement. (See attached Commercialization Metrics Reporting document.)

U.S. Competitiveness

Participation is open to all categories of organizations: Industry--for-profits, nonprofits, large, small--educational institutions or other entities where their participation directly

serves the overriding goal of improving the U.S. industrial base and advancing U.S. competitiveness.

Research and development conducted under the partnership project, and activities undertaken for the purpose of commercializing partnership derived products, processes, and services should ideally be carried out in the United States. However, in light of the international marketplace, deviations from this goal will be considered on a case-by-case basis. Likewise, products embodying intellectual property developed under the partnership project should be substantially manufactured in the United States, but again marketplace realities can dictate otherwise.

Participation in a partnership is permitted by a company or business entity if the participant:

A. conducts a significant level of its research, development, engineering, and manufacturing activities in the United States; and

B. the majority ownership or control of which is by United States citizens or is a company or other business of a parent company that is incorporated in a country the government of which:

(1) encourages the participation of firms so owned or controlled in research and development consortia to which the government of that country provides funding directly or provides funding indirectly through international organizations or agreements*; and

(2) affords adequate and effective protection for the intellectual property rights of companies incorporated in the United States.

R&D Performance

Generally, the Joint Sponsored Research Agreement must clearly set forth the purpose of the partnership project and provide for a detailed R&D plan specifying implementing tasks and major performance milestones.

Because JSRA can support a multi-year partnership project the implementation plan will often be developed for the initial phase.

**** As determined by the U.S. Secretary of Commerce***

As long as the disbursement of NASA funds is tied to performance milestones, subsequent amendment of the R&D plan is acceptable. Also, the JSR Agreement requires NASA and the non-government partner(s) to specify, at a designated time, a detailed R&D plan and performance milestones for subsequent phases before NASA disburses funds to support subsequent R&D.

Selection of Participants in Multi-task or Multi-partner JSR Activities

Fairness Principles

Like all NASA activities, access to and participation in JSRAs must be open and fair. The following process for selecting project participants is suggested as an approach to help ensure fairness in multi-task, multi-party activities:

A. Objective and reasonable criteria are established in writing by the NASA manager in charge of the project

B. The participation criteria are provided to interested parties upon request

C. A Project Announcement describing the project, criteria for participation, and point-of-contact for information regarding participation is published in a widely distributed publication likely to be read by members of the subject industry, and/or distributed electronically (e.g., Internet), and/or alternatively, in the Commerce Business Daily (CBD), prior to negotiation of contractual terms and conditions with any prospective participant(s)

D. Interested parties are invited to submit their qualifications based on the participation criteria

E. Reasonable effort is made to include all interested and qualified applicants in the project

F. The selection is based on an impartial evaluation of the applicants' qualifications relative to the stated criteria for participation

Unsolicited JSRA proposals for a limited project initiated by a potential commercial partner may be accepted by NASA without following this process. However, non proprietary information on all JSRA activities must be publicly available.

Selection Criteria

The NASA manager in charge of each multi-party, multi-task project shall establish in writing, criteria for initial participation in a proposed partnership project. The criteria will be based on objective factors bearing directly on the capabilities required to undertake the contemplated tasks.

The criteria shall minimally address the following factors:

The participant's:

A. Capability to perform the responsibilities required by the Project

B. Overall ability to contribute to achieving Project goals and objectives

C. Ability to commercialize the Project technology

D. Extent of funds and/or in-kind resources committed to the Project

Once a consortium is established, industry members should be allowed input into membership changes, but such decisions should be in accordance with the established goals of the consortium, the objective factors of initial membership, as well as the principle of fairness.

Other factors relevant to the particular project may also be included in the criteria for participation. The criteria for participation in any particular project will be furnished to interested parties upon request.

Selection Process

A. Following receipt of responses to the Project Announcement, the NASA manager in charge of the partnership project shall provide all qualified respondents detail information on the project. A project briefing can also be scheduled.

B. Within a reasonable time thereafter, all interested parties will have an opportunity to submit statements of interest and qualifications. The NASA Manager will attempt to structure the project in a manner that provides as many qualified parties as possible an opportunity to participate.

C. If a selection is required, the NASA manager in charge of the project will make the selection based on an objective evaluation of the applicants' written qualifications relative to the stated criteria for participation.

NASA Funding of Partnership Project and Cost Sharing Principles

NASA may provide funds to one or more non-government partner(s) (commercial or nonprofit organization) to support research and development under a Joint Sponsored Research Agreement. Funding will be approved through the normal NASA program funding approval process.

The Joint Sponsored Research Program strongly advocates equal cost sharing between NASA and the non-government partner(s) in a partnership project. However, the required standard is equitable cost sharing between NASA and the non-government partner(s).

The evaluation of what constitutes equitable cost-sharing in any circumstance should take into account the status of a proposed participant as a small or disadvantaged business.

Equitable cost sharing evaluations should also include consideration of non cash contributions including:

A. compensated services of personnel assigned to project in proportion to time commitment to project
B. IR&D, if authorized
C. equipment

D. properly accountable intellectual property (in accordance with In-Kind Resources Valuation and Verification in the next section).

E facilities

A party contributing in-kind resources to a partnership project may be required to verify the delivery of promised in-kind resources to the partnership project.

Cash contributions can qualify toward cost sharing. To qualify toward cost sharing, a non-government partner must provide funds derived from a private sector source. Allowable sources of private capital include private risk capital, profits, internal research and development funds, and IR&D. Funds derived from an active federal contract or other funding program do not qualify as a private sector funding source.

In-Kind Resources Valuation and Verification

Commercial and nonprofit partners may be required to submit documentation to support the valuation of contributed in-kind resources.

The following will be accepted as in-kind resources, and valued as indicated:

In-Kind Resource	Valuation
Services of Personnel	Cost to contributing participant and part-time personnel
Facilities	Not to exceed fair rental value; Pro-rated as to dedicated use
Equipment	Purchase cost of new equipment (including software); or depreciated value of used equipment; Pro-rated as to dedicated use
Intellectual Property	Based on a demonstrable loss of market value due to its use in the project, and not on market value per se or any sunk costs that may have been involved in its development.

A party contributing in-kind resources to a partnership project is required to verify the delivery of promised in-kind resources to the partnership project.

Funds Recipient, Accounting and Audit Methodology

A funds recipient (i.e., a commercial or nonprofit organization partner receiving NASA funds under the Joint Sponsored Research Agreement) is required to account for project-related expenditures and to utilize an accounting system operated in accordance with Generally Accepted Accounting Principles (GAAP). Reporting requirements will be specified in the Joint Sponsored Research Agreement.

Overhead Rate Negotiable for University or Nonprofit Organizations

NASA and commercial partner(s) may negotiate with the university or nonprofit organization partner(s) the overhead rate applicable to research and development activities carried out under the partnership project by the performing university and/or nonprofit organization partner(s).

Partnership Participation No Bar to Follow-On Procurement

Participation in a partnership project will not generally act as a bar to a partner's involvement in a subsequent procurement contract related to work performed under the partnership project. Joint Sponsored Research Agreements may not include the writing of statements of work or contract specifications for any potential procurements.

Intellectual Property Rights

The following may serve as guidelines in the allocation of Intellectual Property Rights:

A. In allocating rights to intellectual property in Joint Sponsored Research Agreements, NASA seeks to further the objectives of the Joint Sponsored Research Program by providing incentives for participants to jointly and equitably support the performance of R&D with NASA and to promote the commercialization of resulting technologies. NASA considers its objectives furthered if NASA obtains only those rights to use technology as may be required by applicable law and regulations, or as may be agreed to in consideration of a Joint Sponsored Research Agreement, with other rights residing with a participant who intends to commercialize the resulting technology. NASA also considers its objectives furthered if NASA makes available rights to NASA technology, in the form of exclusive or non-exclusive licenses, to a participant who requires such rights to commercialize technology resulting from a Joint Sponsored Research Agreement. A summary of the principles by which intellectual property rights are to be allocated is set forth below

B. With respect to inventions and patents resulting from, or which may be introduced into, a Joint Sponsored Research Agreement the following shall apply:

(1) As to an invention made by a participant employee in the performance of research and development work that is funded in whole or in part by NASA under a Joint Sponsored Research Agreement, and the participant is a nonprofit organization or a small business firm,*

participant has first option to elect title, file for, and maintain patents thereon, as provided for in 35 U.S.C.

Section 200 *et seq.* Participant's rights are subject to certain license rights and other reservations of NASA, including the right to acquire title to any invention if the participant does not exercise its option, or does not file for and maintain patents thereon, as also provided for in 35 U.S.C. Section 200 *et seq.*

This provision is a restatement of 35 U.S.C. Section 200 et seq. It is not intended to expand or restrict JSR Guidelines beyond that which is contemplated under that statute.

(2) As to an invention made by a participant employee in the performance of research and development work that is funded in whole or in part by NASA under a Joint Sponsored Research Agreement, and the participant is other than a nonprofit organization or a small business firm, participant may petition NASA to waive title to said invention and maintain patents thereon, as provided for in 42 U.S.C. 2457. Participant's rights are subject to certain license rights and other reservations of NASA, including the right to retain title to any invention if the participant does not petition NASA to waive title, or does not file for and maintain patents thereon.

(3) As to an invention made at private expense and not in the performance of research and development work that has been specifically identified and agreed to be performed by a participant under the Joint Sponsored Research Agreement, NASA receives no rights whatsoever under a Joint Sponsored Research Agreement, unless participant and NASA agree otherwise in the Joint Sponsored Research Agreement.

(4) As to an invention made by a NASA employee in performing an assigned task under a Joint Sponsored Research Agreement, if NASA has the right to acquire title under applicable regulations, NASA will use reasonable efforts to grant the participant for whom the task is performed, as identified in the Joint Sponsored Research Agreement, the first option to acquire an exclusive, royalty-bearing, revocable license for each patent application filed and patent issuing thereon, subject to a worldwide, non-exclusive, irrevocable, paid-up license to practice the invention by or on behalf of the Government. Terms and conditions, including royalties and agreements on the filing and prosecution of the patent applications, will be expeditiously negotiated upon timely notification by participant of an intent to exercise the option

(5) NASA also agrees, with respect to any NASA-owned inventions made prior to or outside of any agreed-to

tasks under a Joint Sponsored Research Agreement that are available for licensing and bear a direct relationship to the commercialization of technology resulting from a Joint Sponsored Research Agreement, to expeditiously consider and process any license applications timely made by a participant either prior to execution of, or during the performance of, a Joint Sponsored Research Agreement. NASA licensing determinations will take into consideration the objectives set forth in (1) above

(6) As to any invention made jointly by NASA and a participant in performing research and development work under a Joint Sponsored Research Agreement and for which the participant wishes to file for and prosecute patent applications, NASA will, upon request and to the extent authorized by law, either grant an exclusive license (or may assign its rights), to the participant, or will refrain from exercising its undivided interest in the invention in a manner inconsistent with the participant's commercialization of the invention. All such actions will be subject to a worldwide, non-exclusive, irrevocable, paid-up license for the practice of the invention by or on behalf of the Government, and other reservations authorized or required by law

(7) When practical, NASA will use civil servant employees in carrying out its responsibilities under the Joint Sponsored Research Agreement. In the event NASA support contractors are tasked to perform work in support of specified NASA activities under the Joint Sponsored Research Agreement and inventions are made by contractor employees, and NASA has the right to acquire or has acquired title to such inventions, NASA will use reasonable efforts to report such inventions and upon timely request, will use reasonable efforts to grant the participant for whom the task is performed, as identified in the Joint Sponsored Research Agreement, the first option to acquire an exclusive, royalty-bearing, revocable license for each patent application filed and patent issuing thereon, subject to a worldwide, non-exclusive, irrevocable, paid-up license to practice the invention by or on behalf of the Government.

(C) With respect to rights to data (including technical data and computer software) resulting from, or which may be introduced into, a Joint Sponsored Research Agreement, the following shall apply:

(1) Each participant may retain exclusive commercial rights (either as proprietary under disclosure and use prohibitions for an agreed period and/or under copyright) to all data first produced in the performance of research and development work under a Joint Sponsored Research Agreement if funded in whole or in part by NASA or if specifically identified and agreed to be performed by a participant, except for certain identified data of a general nature or not of a proprietary nature, or for specifically identified technical data and computer software for which it is agreed otherwise in the Joint Sponsored Research Agreement. NASA may use, duplicate, and disclose any data for which a participant retains exclusive commercial rights for Government purposes (including disclosure outside the Government for such purposes), under appropriate protective conditions consistent with participant's exclusive commercial rights. Data first produced in the performance of research and development work under a Joint Sponsored Research Agreement for which a participant does not retain exclusive commercial rights may be obtained by NASA without restriction on disclosure and use

(2) NASA normally will not obtain delivery of or any rights to, data proprietary to a participant that has been produced at private expense and not in the performance of research and development work that has been specifically identified and agreed to be performed by a participant under a Joint Sponsored Research Agreement. To the extent delivery to NASA of such data may be required, it will be under appropriate protective conditions as to its use, duplication and disclosure, and with express agreement that NASA will not use the data for manufacture or procurement purposes, and will not disclose the data outside the Government except for limited Government purposes and subject to the same limitations and protective conditions. Further, the use,

duplication, and disclosure of delivered computer software developed at private expense and not in the performance of specifically identified and agreed to research and development work under a Joint Sponsored Research Agreement will be computer or site limited

(3) As to data produced by NASA in the performance of agreed-to research and development work with a Participant under a Joint Sponsored Research Agreement, such data will be expeditiously made available to such participant. NASA may use, duplicate, and disclose such data for Government purposes, and will endeavor, to the extent permitted by law, to prevent disclosure, duplication, and use for any other purpose, consistent with any exclusive commercial rights participant may have retained for the same technology to which the data pertains*

(D) Where there are multiple participants under a Joint Sponsored Research Agreement, the foregoing allocation of intellectual property rights are between NASA and the identified participant whose research and development work is to be funded in whole or in part by NASA, or between NASA and an identified participant who has agreed to such allocation of rights, as set forth in the Joint Sponsored Research Agreement. Participants may allocate such intellectual property rights among themselves, and with others so long as such allocation is consistent with the rights and reservations of NASA and the Government, or as may be required by law.

**** The law permits up to a five year exemption from the Freedom of Information Act (FOIA).***

APPENDIX: GLOSSARY OF TERMS

- **Commercial Partner** means a for-profit firm or business entity that is a participant in a partnership project and a party to the joint Sponsored Research Agreement.

- **Dual-Use Joint Research Project** means a type of partnership between NASA and two or more companies where NASA seeks to stimulate industry initiative in technology areas that will foster industry's technology leadership or competitiveness. Industry sets specific R&D objectives and task plans, with NASA approval. The results are shared in a manner to benefit the industry overall.

- **Dual-Use Technology** means technology relevant to NASA mission requirements and having commercial application.

- **Facilitator** means a person or organization who assists in the identification, formation, and administration of partnership projects. For example, Government personnel, for-profit personnel, nonprofit personnel, Government contractors, or a representative person and/or organization of the for-profit partner entities, may act as facilitators.

- **Funding Partner** means the government or non government partner who provides R&D funds to another partner under the Joint Sponsored Research Agreement.

- **Industry-Led Consortia** means a type of partnership between NASA and one or more company, which may include a university or nonprofit research organization, to research and develop dual-use technologies.

- **Joint Sponsored Research Agreement** means a Space Act agreement authorized by the Administrator's Delegation of Authority for Joint Sponsored Research Projects for Technology Transfer and Commercialization (original authorization March 31, 1992, renewed February 25, 1994, ***revised--NEW DATE--***), and means the agreement for implementing a partnership project between NASA and the private sector.

- **Joint Sponsored Research Program** means a NASA Program, a component of the Commercial Technology Network, dedicated to enhancing United States competitiveness through R&D partnerships between NASA and the private sector.

- **Participant** means a company or other business entity, university, or nonprofit research organization, that is a party to a partnership with NASA.

- **Partnership Project** means a jointly supported research and development undertaking between NASA and one or more commercial partners which results in the development of dual-use technology; commercialization of NASA or dual-use technology; leverage of the cost of technology development between NASA and the private sector; enhancement of U.S. industry's competitive position in the global marketplace; or conversion of aerospace or defense technology to commercial application.

- **Project Announcement** means the published description of the partnership project, containing criteria for participation.

- **Project Briefing** means the meeting to which qualified prospective participants are invited to learn about the project and exchange information with NASA, prior to the selection of participants.

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